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performance PC

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Review of
Midrange Gaming System

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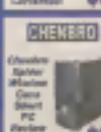


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Integration can be fun

Integration continues apace in the computer industry. Dell is moving into the market for LCD displays and MP3 players, Hewlett-Packard has made a move up into the office equipment market for photocopiers and flat-brown document production systems – and networking equipment maker Netgear is working hard to make an innovative splash in the living room with its WGT634U Super Wireless Media Router.

The good news for Performance PC readers is that all this integration means that we will no longer have to work so hard to do this kind of thing ourselves. Making PCs that are optimized for gaming, video and generally high-performance entertainment has become the concern of mainstream chipmakers, PC manufacturers and video card producers.

It doesn't, of course, mean that there won't be anything to add or upgrade on the PCs of the future – it just means that you may choose to upgrade different pieces of the PC (and can be sure that a lot of the basic high performance components of the system have been optimized to work together). The PC, for example, may yet become a popular device for watching TV.

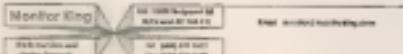
One indication of this was AMD's recent announcement of support for Microsoft's Windows XP Media Center Edition 2004 on its AMD Athlon 64 processors. The company said that both desktop and mobile systems are based on AMD64 technology, which it claims will enable "immersive" audio and video features for what AMD calls "extreme computing".

AMD says with Athlon processor-based PCs with Windows XP Media Center Edition 2004, consumers will be able to view live television, personal video recording, music, photo, video, radio and DVDs from the Media Center PC using a single remote control. The company says that

customers will be able to shift television schedules, customize a music library, or select from multiple entertainment sources from the familiar simplicity of the Windows operating system.

Arch-rival Intel, meanwhile, has an initiative called PCs for the Digital Home and uses a "digital media adapter" that acts as a wireless bridge between a PC and the TV or stereo. It uses standard audio/video cables to connect to TVs and stereos, and wireless networking to communicate with the PC. Intel says that in this scenario, the "PC does all the hard work of processing and distributing the digital media throughout the home" – the adapter simply passes it along to the TV and stereo. Intel says that this setup allows the adapter to remain low cost, while providing consumers with a high-quality experience.

Intel's plans for the digital media adapter are that will be installed similar to other "consumer-friendly" devices such as digital cameras and printers. For adapters that are packaged with a preconfigured PC, users will simply launch the preloaded software from a desktop icon to configure the device, then – similar to a DVD player – connect the adapter to the TV and stereo. ■



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Midrange Gaming System

By Babak Khanian

Target

This system is geared more towards the midrange gaming rather than the business/workstation market. The ATI Radeon 9600 Pro was my main focus in this review. It is not the newest video card on the market, but still offers great gaming performance with a "budget" price tag for the average gamer. The retail ATI 9600 PRO does not come with a solid bundle, but it does come with the reputation of being "built by ATI" and that does mean you'll get certain quality from your purchase. I used the Star Trek: Elite Force 2, for my benchmarking software. The graphics quality was set to maximum, and I ran the test three times each in default mode, I didn't adjust the texture quality because the performance gain is too small and a few fps aren't worth the quality loss.

Background Techno babble

Intel launched the Pentium 4 3.0C back in April. With faster 800 MHz system bus, capable of providing up to 6.4 GB/sec of peak memory bandwidth to the processor. The downside of this chip was the price. To accommodate the needs of the mainstream market, Intel introduced the Pentium 4 2.4C, Pentium 4 2.6C and the Pentium 4 2.8C. Prices of these chips were less than half the original 3.0C chip, while the main 800MHz bus support feature was kept. The second issue was the motherboard price. Intel introduced the 845 platform, which is composed of three chipsets 845PL, 845G, and 845P. These chipsets offer full support of the 800MHz bus and the dual channel DDR400 memory. Dual-channel DDR memory technology out performs any existing solutions in the market by doubling the bandwidth of your system memory, offering a peak bandwidth of up to 6.4 GB/s.

The ASUS P4P800 motherboard, along with the Intel P4 2.6C, that I am reviewing, is based on the 845PE chipset. To make things even more attractive, ASUS P4P800 is an ATI Radeon-based motherboard with standard 8X AGP. The 8X AGP enables enhanced graphic performance with high bandwidth speeds up to 2.12 GB/s. The motherboard also comes with on board 3COM 10/100/1000 LAN and Audio, 5 PCI slots, 2 DDR 400 memory slots and 4 USB ports in the back and two in the front, one 9 pin serial and one parallel port. There is also a S/PDIF out port, for easy connectivity between your motherboard and Home Theater system. Another feature that is a definite plus is the built in SoundMAX Digital Audio System. This system has output 5.1 channel surround sound and supports all major game audio technologies including Microsoft DirectX 8.0, Microsoft DirectSound 3D, A3D, and EAX.

SYSTEM SETUP

CPU	Intel Pentium 4 2.60GHz
Motherboard	ASUS P4P800
Memory	2x 512MB DDR400 RAM
Hard Drive	30.0GB IDE 7200 RPM 2.5" 8MB
Video Card	"9" ATI Radeon 9600 PRO 128MB TX 100
Sound Card	SoundMAX Digital Audio System
Case	NEC 6000AMM case with 420w 10 and 100w
	Speaker 5.1 RMS, Razer Death
System Board Price	\$149.99 CAD
Contact Info	www.intel.com www.asus.com Tel: 800-712-6111

The final ingredient that makes this system what it is, is the Radeon 9600 Pro. 9600 Pro is a 4 pipeline, 1 TMU and Shader unit per pipeline, architecture, with a 400 MHz clocking speed. What this basically means is almost no stress on the CPU, and more performance from the card. ATI provides a standard VGA, DVI and S-Video out, and with the DVI-to-VGA adapter, you can have dual monitor support.

Conclusion

This is what the midrange is all about. The 9600 Pro finds a nice balance between performance and pricing, along with the driver support that's no longer lacking. The system as a whole is not too expensive and perfect for the midrange market. I was happy with the overall image quality and gaming performance the 9600 Pro delivered. What I would have personally preferred, is if ATI had included a video capture option on the 9600 Pro, because once in a while I like to dabble in video editing. If you are considering building a solid system on a decent budget, I definitely recommend this system. However, the die-hard gamers would feel limited with the 9600 Pro, and would probably out grow it very fast. ■

Pros

- Fast
- Reliable
- Great value
- Good drivers
- Excellent 3D support
- Excellent 2D support

Cons

- Needs a lot of RAM for 3D games

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Weaving Your Own Web Site - Part LXXX

Text Formatting and CSS3 – Part 3

By Keith Schengili-Roberts

Like HTML, the development of official standards for Cascading Style Sheets is an ever-evolving process. The World Wide Web Consortium ("W3C") actively seeks expert input on this process from the many member companies and groups comprising its membership. Not insignificantly, many of the CSS additions made to the most recent editions of Internet Explorer contain elements which were later proposed to the W3C, and have since been adopted in some form within the latest drafts of the CSS3 specification, still yet to be officially endorsed. So there are a number of features in the impending CSS3 specification you can get working knowledge of by playing with their precursors in Internet Explorer 6. The following may or may not be the way things are finally decided upon in terms of the official W3C-endorsed specification, but you can play with these foreign text-formatting CSS elements in Microsoft's latest browser for Windows.

Spacing for Arab Text

Arabic text is typically justified upon a line by expanding individual characters at certain, pre-determined points. This type of justification on Arabic text is called *kashida*. The *text-kashida-space* property that currently exists within Internet Explorer 6.0 provides fine control over this type of justification, setting the ratio of *kashida* to white-space expansion.

The *text-kashida-space* has two properties, a percentage value and *inherit*. The *inherit* value takes on whatever parent value may already be set. This property is a definite case demonstrating how successful Microsoft has been in pitching its ideas for CSS properties to the World Wide Web Consortium – the *text-kashida-position* property in the CSS3 text module works in exactly the same way as it currently functions within Internet Explorer.

The effects of *text-kashida-space* are subtle but definite. The effect is not so much to justify the line of characters across a line, but instead to stretch the very characters themselves in order to fill in a line. It is meant to be used in conjunction with *text-align: justify* and *text-justify: kashida*, and the following sample code shows how they all work together to produce an effect:

```
<html dir="rtl" lang="ar">
<head>
<title>text kashida space Example</title>
<meta http-equiv="Content-Type" content="text/html,
charset=windows-1256">
</style>


</style>


```

</head>

</body>

The following are the first few lines of the Korean

ép class="kern" style="text-kashida-space: 0%">

한국어 글씨의 글자간 거리가 0%로

한국어 글자간 거리가 0%로

Stopping Email Threats the Post-Office Way

Email threats—such as viruses, worms and denial-of-service attacks—have become one of the most significant dangers to businesses today. Clogging corporate networks, tanking servers, disrupting email traffic and bringing mission-critical business operations to a screeching halt, these attacks are now propagating faster than ever.

Fighting email threats has become a day-in and day-out battle—and one of the best ways to wage this war is by using the “post-office” model.

Today, your post office stops suspicious or dangerous mail—such as mail that smells funny, looks faked, or emits a steady ticking noise—before delivering it to your home or corporate mailbox. Post-office security measures like these ensure you’re protected. And that gives you peace of mind.

Without sophisticated security systems—similar to those the post office provides for your mail—your home or business email infrastructure is wide open to attack. Each and every message is routed from the sender to your email inbox with no security filters, leaving you unprotected.

One of the reasons why your email is so vulnerable has to do with the Internet technology that makes it possible. Email messages are sent by the Simple Mail Transfer Protocol (SMTP). Created more than 20 years ago, this protocol was not designed for today’s mission-critical email

communications and was never intended to make messaging secure. SMTP is an “open recipient” protocol, meaning that recipients have no choice but to accept email messages that are sent to them.

Most hackers and junk-mail vendors prey on open and accessible SMTP gateways—and most companies have open gateways because they publish their mail exchange (MX) record routes. Like your primary postal address, your MX record tells the Internet where to send all of your email, because it includes your primary IP addresses and backup or fall-back servers. Hackers leverage this information to not only understand IP address ranges and server locations, but also to connect directly to enterprise mail servers.

Fortunately, businesses like yours can take advantage of email “post” systems, which access the Internet on your behalf. These managed email service providers conceal your Internet-facing mail servers and gateways, shielding you from attack.

If you leverage a premier managed service such as MX Logic, you merely point your company’s MX record to that of the managed service provider’s. Your email address remains the same, but this simple change of the MX record routes all mail intended for your organization through powerful filters first—before sending safe mail on to your true inbox.

Just as the postal system has a department dedicated to tracking and detecting those who commit mail fraud and who send dangerous packages, advanced email protection services are dedicated to fighting ongoing email threats. By using a managed service as your “email post office,” you can take advantage of email experts whose sole job is to protect you from email threats 24 hours a day, seven days a week, 365 days a year.

There’s one thing that managed protection services will do for you that your post office will not, however. As everyone knows, postal services deliver junk mail every day. In fact, they make a lot of money from junk mail and protecting you from receiving it would be bad for their business.

But leading managed protection services stop the deluge of junk email (spam) while they protect you from email threats. Many of these services use multiple spam-filtering techniques that can block more than 95 percent of spam, while maintaining minimal false positives (legitimate email marked as spam). In this way, managed email protection services are far superior to post offices.

By leveraging one of the premier managed services available today, you will safeguard your network, increase employee productivity, decrease network and storage costs, and reduce corporate liability.

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Weaving Your Own Website

Continued from page 8

are many occasions when you need to mix in Western-style text with your Asian text. The `text-autospace` property is designed to let you have more control over the spacing between Western characters and your Asian-based character text. In this way, you can help offset, and perhaps emphasize, the Western characters and words that appear in your Asian text.

The `text-autospace` property has five element none, ideograph-alpha, ideograph-numeric, ideograph-parenthesis and ideograph-space. The `none` value is the default, setting no special spacing value between any Asian and Western characters that may appear together on a Web page. The rest of the properties for `text-autospace` describe the conditions under which slightly more space is added when it is next to an Asian ideographic character. So `ideograph-alpha` adds extra space when any regular Western, "alphabetical" characters appear next to Asian ideographs. Similarly, extra space is added between Asian characters and numbers when `ideograph-numeric` is used. `ideograph-parenthesis` is intended to add extra space between Asian characters and information contained in brackets, and when an Asian character is next to a space, `ideograph-space` is intended to make it a slightly larger space.

The effects of these values can be subtle, but the end results are intended to space out the different types of characters from each other in an attempt to make things more readable. The following code example shows the effects of three of these values set to some nonsensical Chinese text mixed together with English words and numbers.

```
<html>
<head>
<title>text-autospace Example</title>
<head>
<style>
span {font-family: Ellii, MingLiU; font-weight: bold,
font-size: 20pt; layout-flow: vertical-ideographic; height: 400px}
</style>
<body>
<span>text-autospace: none;</span>
<span>text-autospace: none;</span>
&#27489;1;&#36814;2;&#28459;3;&#28216;4
(PaneOK) &#150.5
&#24179;.6;&#38754;7;&#39023;8;&#31034;9;&#2363
1;&#26989;11;&#30028;12;&#30340;
Portal 13&#23450;, Exchange 14
<span>
<span>text-autospace: ideograph-alpha;</span>
<span>text-autospace: ideograph-alpha;</span>
&#27489;1;&#36814;2;&#28459;3;&#28216;6
(PaneOK) &#150.5
&#24179;.6;&#38754;7;&#39023;8;&#31034;9;&#2363
```

1;業11;界12;的
Portal 13定, Exchange 14

```
<span>
<span>&nbsp;</span>
<span>text-autospace: ideograph-numeric;</span>
<span style="text-autospace: ideograph-numeric">
&#27489;1;&#36814;2;&#28459;3;&#28216;4
(PaneOK) &#150.5
&#24179;.6;&#38754;7;&#39023;8;&#31034;9;&#2363
```

1;業11;界12;的
Portal 13定, Exchange 14

```
<span>
<body>
<html>
```

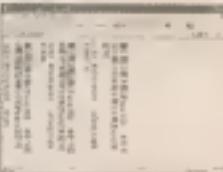
Note that in this case the Chinese text is rendered in Unicode, which should translate well in almost any modern browser and operating system. While nonsensical Chinese words are used here, the effect can be seen with any combination of Chinese and Western text.

The `text none` value is what you would get as a default. It treats the English text, numbers and Chinese text equally, giving them the same amount of spacing. The result is a muddled jumble of all of these characters. The next sample text uses the `ideograph-alpha` value, and though the effect is subtle, you will note a slight additional spacing added between the English words and their surrounding Chinese characters. The results are more noticeable with the sample code accompanying the `ideograph-numeric` value, which clearly adds additional space between each individual number and the Chinese characters that surround them. The end effect is to make each block of text more readable.

Note that there is no way to adjust the spacing settings for these `text-autospace` values – essentially you get what you get, which is predetermined by the browser's and the operating system's own settings for handling Asian character sets.

While all of this will work in the most recent version of Internet Explorer, there is also an equivalent `text-autospace` property under the current draft CSS3 text module. It has all of the same values as does the Internet Explorer equivalent, and they are designed to work in the same way. What you see in Internet Explorer now seems to be the way CSS3 development is going, at least with these international CSS formatting properties.

Krish Sankari-Roberts is the author of *Core CSS, 2nd Edition* recently published by Prentice Hall. For more information, see www.complex.com. This article is a continuation of the long-running "Web Weaving" series that originally ran in *The Computer Paper*, one of the longest continuing series on the Web authoring, which started back in 1994. ■



The Stocking Is Half Full: A post-Christmas Guide to Buying What You Didn't Get Under the Tree



By Geoff Whitebright

So Santa didn't fit your most-wanted technological goodies on his sleigh at Christmas — and you were given gift certificates or cash instead? Well, that's still not too shabby. You now have the chance to do a little post-Christmas shopping, to give yourself what you didn't get for Christmas.

To help you in this undesirably pleasant task, I offer the following summary of recently-released goodies that you should consider putting in that empty spot where the Christmas tree used to be.

Dell Inspiron 300m notebook computer

I can vouch for this one — it's a keeper. I have been using this lightweight notebook (when using the lightweight battery on it, it comes in at less than three pounds) for three months now and it is truly fantastic. I used it in comparison with the base station and long-life battery — and can

get up to four and a half hours out of it when I'm traveling — meaning that when I'm traveling, I can watch a full-length DVD movie and still have a couple of hours life left on it to get some work done.

It comes with 256 Mb of memory, provides all the important I/O ports even when used without the base station (e.g. USB, modem, Ethernet, power, audio ports and video output), includes built-in WiFi and the Intel Centrino chip set. The display is bright and works well at a variety of angles — and, with a capacity of 30 Gb, the hard disk is probably as big as you need (especially if you make judicious use of the DVD/CD-R drive that comes in

the base station).

The keyboard is big enough to be used in almost all conditions, but not so big that it prevents you from working in a cramped airline seat. If you need a lightweight notebook that doesn't compromise on performance or capability, you could do far worse than the 300m.

Dell Axim X3

It's been a bit of a Dell Christmas at our house and the 3329 X3 came into my hands a few weeks before the festive season. Like its larger companion, it has also been a delight to use, offering a whole lot of power in a small size. It comes with a 400 MHz Intel XScale processor, built-in WiFi (although there is an entry-level model that doesn't come with WiFi), 64 Mb of memory and a color screen that is very easy to work with.

At 5 ounces, the Axim X3 is 28



Continue on page 22



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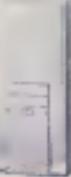


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V-770



142

143

146

PC-177

New PC 142 & 179

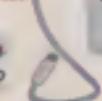


132

129

140

Flexi
WebCam



USB & PS/2 Combo
Office XP Keyboard



Wireless RF
Trackball
Laser Pointer
USB Combo



Wireless RF
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The staff of PerformancePC and ncix are proud to hand over the ncixPC Gamer XP 100 System to our lone contest winner, Thomas Tse, on December 22, 2002, in the ncix store on Broadway.

Thomas was excited and thrilled to learn that he was the lucky winner of the ncixPC Gamer XP 100 system. The winning user just posted the prize on his a portal website in the 'fun' family right before the Christmas season. "I promised my son we have to have a little competition in April. I was so thinking and couldn't believe that he was actually won... Now my son doesn't have to wait till April because this will be his second Christmas present. I am so happy" and Thomas is one of the staff.

ncixPC Gamer XP 100

WINNER



Publisher's Pick TOP TEN BOOK LIST



ISBN: 0735613360
Title: Microsoft Office System Inside Out

Author: Michael S. Kaplan
Publisher: Microsoft Press

Adobe
Premiere Pro



10

ISBN: 0821169784
Title: Learn to Use the Camera 101
Author: Adobe Creative Team
Publisher: Adobe Press



ISBN: 0872320486
Title: Macintosh Bookshelf, Macintosh
Author: Ross Mathew and Reynolds 26
Publisher:

4	0785130225	Windows 98 Help Tips
5	0872320376	17 Beginning Programming in C++ Books
6	0872320488	Using Script Resources 10
7	087232110X	Windows XP in 24 Hours
8	0872321703	Open Boxes the Lot B1
9	0872322324	24+ Premier Plus 5th Ed
10	0885125384	Signal Capture and Imaging Guide

Scott Kelby	Pixel Perfect	New York
Greg Perry	Series	Series
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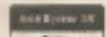
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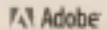
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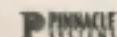
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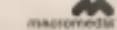
  













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25. Jostar Pro Computer	62. Jim's computers	99. Venix Computer
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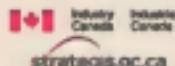
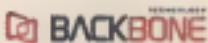
Keynote by Rasmus Lerdorf
Sterling Hughes
John Coggeshall

Axel Schulte
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by Geoff Whearwright

Changing The World



The following is taken from an upcoming book by *PerformancePC* Executive Editor Geoff Whearwright – *Inside the Bubble* – about his experiences in the “dot com” industry between 1999 and 2001. Chapter One was featured in the October issue of *Computer Pro*, and is still available online at http://www.computerpro.com/inside_the_bubble.htm.

Chapter Four - Changing The World

From the first time that Charles and I had talked about the possibilities for Investment.com it seemed that we had the chance to do something amazing. We felt that the domain name was such a gift that one of our early experimental taglines for the site was “Investment.com - where else would you go?”

The answer to that question became starkly apparent about 18 months later, but in July of 1999 it seemed that we were ready to rock the world. We thought that consumers would flock to a single place on the Web where they could not only learn about every possible type of investment vehicle available to them – from stocks to bonds to mutual funds to insurance currency trading to real estate to collectibles – but they would also be willing to make such investments online through the Investment.com Web site.

And it wasn't as if we were alone in thinking that there was merit in this idea. From the start, we had interest from online banks, brokerage houses and a variety of financial professionals who seemed fascinated by the idea – and admittedly probably quite dazzled by the valuations that dot com companies were achieving.

The first week or so at Investment.com was a whirlwind of meetings and a flurry of ideas – and coming to terms with the scope of the massive job before us and working out how quickly we could create an investment-related Web site that would be worth visiting. The goal was to have a “soft launch” quickly and then follow that up with an “official” launch of Investment.com sometime in October.

We had tons of people to hire, the identity of the Web site and the company to define – and a lot of plans to put together. Coming from a newspaper and magazine background – and being in charge of content development – my first priority was to hire a small team of writers who could quickly help create a dynamic personal finance Web site that would be updated daily.

In addition to all of this, I quickly learned that a portion of my time would have to be devoted to educating investors about the merits of our plans for the Investment.com Web site. After all, Victory Ventures was a public company and I knew from my years of covering business stories that

disclosure was a big issue for investors. I did not yet understand, however, just how demanding the public nature of the company would be – especially as my role meant that I was officially an “officer” of the company and needed to register myself with the BC Securities Commission as a result of that role.

Keep in mind, as well, that many of the thousands of investors in this public company knew little or nothing about the company itself. When I came on-board, all they knew was that it was moving from being a tiny penny stock to being a dot com penny stock. And given the level of hype around dot com companies at that time, this change alone was enough to put big smiles on their faces.

Within two weeks, I came face-to-face with investors at an “extra-ordinary general meeting” (or EGM) called to get shareholder approval for the company's change in direction, its new structure – and a change of name (to Global Investment.com Financial Inc.). I put together a PowerPoint presentation designed to walk investors through any plan for the Investment.com Web site – and delivered it to a room full of nods and smiles.

But as I think back to that meeting, I remember having the sense that many of the investors didn't really have a good idea of what our new business was – they only seemed to think that it was something that would make that a lot of money. For those who had been in on the stock when it was languishing at a price of a few pennies, the change of business had already done that. Even then, the stock was sitting at 68 cents – meaning that some investors were already enjoying a 500 per cent improvement in the share price.

The other thing that became apparent to me during this time was just how much of a juggling act Investment.com was going to be for me personally. Like many technology start-ups, the monthly fee the company could pay me for my work was not enough to warrant taking it on as a full-time position. The idea was that the options would make up the difference – and that I could carry on my work as a freelance writer as time permitted.

A good example of how difficult this juggling act would be came during the hour leading up the the EGM with investors. I had an interview to do for a story that I was writing for the *Financial Times*, yet no time to sit down at a desk and do the interview prior to the EGM. So I compromised. I got in my car to drive to the EGM, called the interviewer on my cellphone, put it in speakerphone mode, switched on my tape recorder and conducted the entire interview as I drove. I transcribed it later and was able to keep juggling. But I just kept waiting for all the balls to come crashing down on my head. ▶

Component	Address	PCI Computer	MicroConcept	Source (p. 10)
CPU	Intel P4 2.80GHz 800MHz FSB	Intel Celeron 2.75GHz	Intel P4 2.8GHz 800MHz Sockel 478	Celeron 2.4GHz
Motherboard	ASUS P4V8X MB SLI/GP	ASUS P4V8X MB SLI/GP	ASUS P4V8X MB SLI/GP	ASUS P4V8X MB SLI/GP
Ram	624 PC3200 4GBAMH DDR	512 PC2700 266MHz DDR	512 266MHz PC2100	512 266MHz PC2100
IDE Port	None (SATA)	Not listed	Not listed	Not listed
LAN	On board 10/100 Ethernet adapter	On board NIC 10/100BT	3Com 10/100BT onboard PCI	On board 10/100
Video Card	ATI Radeon 9200 128MB	On board 33 MHz	ATI MX 440 32MB AGP 16x/1	ATI MX 440 32MB AGP 16x/1
Monitor	17" ASEA Barco	17" Acer K2711 CRT	NEC A251P 17" Flat	17" Sanyo 170SF
Hard Drive	80GB ATA-300 7200RPM	Master 80GB ATA/133 7200RPM	40GB 5400RPM 7200RPM	40GB 5400RPM 7200RPM
Optical Device	52x4x2x CD-RW	16x 52x CD-RW	16x 52x CD-RW	16x 52x CD-RW
Sound Card	On board Enhanced audio	On board AD18730 Audio	On board AD18730 audio	On board AD18730
Speakers	Speaker & subwoofer	250W Stereo speakers	MJ-580 200W Stereo (Aspiral)	Speaker 2.1
Printer	Not listed	Not listed	Lexmark 850 Color printer	Lexmark 850 Color printer
Scanner	Not listed	Not listed	Not listed	HP 5570 Scanner
Case	18" Tower Cintiq 3000W PS	Not listed	17" 40.6cm tower w/ 300W power supply	17" Tower Case
Extra	140GB floppy		1.4GB 1.44MB 3.5 floppy drive	1.4GB 1.44MB 3.5
Mouse	MS optical black mouse	Atmos optical mouse	Non-Programmable 3D Optical	MS
Keyboard	MS multimedia keyboard	MS multimedia PS/2 keyboard	AT/XT Windows 98 keyboard	MS standard keyboard
Software	Not listed	Microsoft XP Home OEM	Not software - OS	Windows XP Home
Warranty	Not listed	Limited warranty	Not listed	1 year for all warranty
Price	\$948.00	\$933.39	\$968.00	\$948.00
Shipping	Not listed	\$30.00	Not listed	Not listed
PST	\$71.00	\$29.00	\$59.36	\$71.00
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The Stocking is Half Full

Continued from page 14

percent lighter than its predecessor and at .55 inches, 17 percent thinner. The Axim X3 also includes removable primary batteries, SD I/O, consumer infrared and is available in three configurations: one with integrated Wi-Fi 802.11b for \$529, and two non-wireless configurations for \$549 and \$469.

In terms of bundled software, the

Axim X3 handheld comes with Microsoft's Windows Mobile 2003 software for pocket PC, and pocket versions of Microsoft Outlook, Word and Excel, Internet Explorer, MSN Messenger and Windows Media Player. Probably the best feature of the machine, however, is the screen - a 3.5-inch transreflective TFT color display with 240x320 (QVGA) resolution. The unit's sync/charging cradle standard on \$469 and \$529 configura-

tions has an extra battery charge slot that accommodates either a standard space battery (950 mAh) or the optional high-capacity (1800 mAh) battery for an additional cost of \$139.

Nokia N-Gage

We also had a chance to have a brief play with Nokia's new N-Gage "gaming platform" - sold in Canada at Electronics Boutiques. The recommended retail price on it is \$449 and

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MSI M6P Neo2 2.5GHz FSB 800	\$1050.00 (\$45)	MSI K6A4VIA-6SP	ASUS P4B2500 2.5GHz 2.6GHz
2500MHz PC27200 DDR400	\$12.48 (\$0.60)	667MHz PC27200 DDR	ASUS P4B2500 2.5GHz 2.6GHz
Not included			Not included
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Motor K088 7200RPM	320GB 7200RPM	Western Digital WD12000A 7200RPM	Dell WD12000A 7200RPM
12.5Gb/sx2 Controller	LE 5Gb/sx2 CSMII & 1Gb EVS	LG 1Gb SAS/RB Angle 52-0252 CSMII	CORSAIR 52-01702-01 1Gb/sx2
80-Sound Card On Board		Orion Audio Sound	Creative Super Speaker 10.20 Sound
100W speakers	ORIIS Subwoofer	Row of Boxes Speakers	TM2012P 100W 2.1 100W
Optical Drives with CDRW		Optical Drives with Filter	Optical Drives with Filter
Optical Drives with CDRW		Optical Drives with Filter	Optical Drives with Filter
17" LCDW WXGA, Dual	17" LCDW WXGA, Dual	17" AOC Widescreen LCDW WXGA	17" AOC Widescreen LCDW WXGA
Panasonic 144 MB Floppy	144 MB Floppy	Asus EIDE 1.44MB Floppy	Asus EIDE 1.44MB Floppy
80W 80/20 Wires	"Wires" 80/20	Asus Wireless G	Asus Wireless G
Wacom 12.5" key PS/2 keyboard	Wacom KeyPad	Asus PS/2 Keyboard	Asus PS/2 Keyboard
Not included			Not included
1 yr parts & 3 yrs limited labour	Rep. limited	3 years labour & 1 year parts	1 yr parts only
0000.00		0000.00	0000.00
Entm	Entm	Entm	Entm
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www.wroxbooks.com		www.wroxbooks.com	
601-216-8778	601-428-6100	604-873-8306	504-285-8202

Accompanying game cards are being sold separately ranging from \$45 to \$55.

The N-Gage game deck lets users play multiplayer games played wirelessly in a variety of ways – including using Bluetooth technology as well as playing over mobile networks through “N-Gage Arena”. It features high-quality, 2D color graphics with backlight, and a eight-way directional controller (aka the “Rocker”) and an

ergonomic design optimized for mobile game play. In addition to its game-playing capabilities, the Nokia N-Gage mobile game deck also features a digital music player (MP3/AAC), stereo FM radio, as well as a tri-band mobile phone.

The latter makes the pricing on file somewhat confusing. Most users in Canada are used to buying subsidized mobile phones — and paying something close to \$0 for it, as long as they make

a commitment of one or two years to a given service provider). The N-Gage, however, is being sold as an "unlocked" phone – meaning that you can buy a SIM card and use it with any provider you like (in Canada, Rogers and Macrotel would be the choices). And therefore it looks price-wise like an expensive phone.

On the gaming side, it looks like a very expensive Nintendo Gameboy Advance – selling for more than twice

Component	Details	OSI Category	Manufacturer	Score (1-10)
CPU	AM3 Athlon X4 3200+	RAM Athlon X4 3200+ / 2.00 GHz	Phenom II X4 2.80GHz	9.0 (9.21, 9.19, 9.09, 9.08)
Motherboard	ASUS P5B-M Pro 3.0	ASUS ATX P5B-M Pro 3.0	ASUS P5B-M Pro	9.0 (9.09, 9.08, 9.07)
RAM	2x 2GB DDR3 1066	2x 2GB DDR3 1066	2x 2GB DDR3	9.0 (9.09, 9.08, 9.07)
I/O Ports	No Intel	Not listed	Not listed	7.5 (7.55, 7.54, 7.53)
LAN	Integrated 1G Intel	On board NIC 1G/1000T	On board network card	8.0 (8.09, 8.08, 8.07)
Video Card	ATI Radeon HD5670 1GBGDDR5	ATI Radeon HD5670 1GBGDDR5	ATI Radeon HD5670	7.5 (7.55, 7.54, 7.53)
Monitor	17" Widescreen TN	17" Asus FEP AL1711 LCD	Samsung 17" LCD	7.0 (7.09, 7.08, 7.07)
Hard Drive	60GB 5400RPM SATA	Motorola 120GB Serial ATA 5400	Western Digital 60GB 5400	7.0 (7.09, 7.08, 7.07)
Optical Device	52x24x52x CD-RW	15x16x12x CD-RW	12x CD-RW	7.0 (7.09, 7.08, 7.07)
Sound Card	Integrated 5.1 channel audio	On board 5.1ch 3D Audio	On board audio card	6.5 (6.55, 6.54, 6.53)
Speakers	5.1 surround speakers	Devon 888 2.1 320	Lugztek 2.340 multimedia home theater system	Logitech Z623 5.1 Speaker
Printer	Epson Stylus Photo R200 Color	N/A	Epson Photo R200 color printer	8.0 (8.09, 8.08, 8.07)
Scanner	N/A	N/A	Epson 1280U photo scanner	8.0 (8.09, 8.08, 8.07)
Case	18" Tower Case 300W PS	Not listed	ATX tower case w/ 300W power supply	7.0 (7.09, 7.08, 7.07)
Extras			5.5" floppy drive	7.0 (7.09, 7.08, 7.07)
Mouse	MS optical mouse	Asus optical mouse	Microsoft mouse	MS optical mouse
Keyboard	MS membrane keyboard	MS membrane PS/2 keyboard	Microsoft keyboard	MS membrane keyboard
Software	Microsoft XP Home	Microsoft Windows ME	Microsoft XP - Home Edition	7.0 (7.09, 7.08, 7.07)
Warranty	No Intel	Limited warranty	No Intel	1 year limited warranty
Price	\$1301.00	\$1098.51	\$1032.36	\$1018.00
Shipping	No Intel	\$79.00		1.00
PST	\$147.00	\$148.00	\$122.40	\$148.00
GST	\$131.02	\$128.58	\$114.34	\$128.75
URL	www.motherboard.com	www.oldcomputers.net	www.oldcomputers.net	www.oldcomputers.net
Phone	(844)244-1230	804-375-1246	804-376-8933	(844)244-1231

the price of an Gameboy Advance SP. And the Nintendo device has a far richer set of games from which to choose.

Having said all of that, Nokia is working with renowned game publishers like Electronic Arts, Activision, Brady, Sega, Taito and THQ to provide what it calls "an attractive and balanced catalogue of high quality games in the marketplace." Nokia N-Gage game deck and

sold separately on game cards (using the MultiMediaCard standard) – and Nokia has said it will also act as a game publisher of branded N-Gage game titles and develop an evolving games portfolio.

If you like the idea of having your phone and game machine in one device – and don't mind paying a little extra for the high quality graphics and mobile online gaming capabilities – you should check this out.

HP Deskjet 5850 Color Inkjet Printer with WiFi support

Want to print wirelessly without attaching your printer to a networked computer? Well, then you may want to look at HP's new \$299 Deskjet 5850 color inkjet printer, which offers built-in wired Ethernet networking and wireless (802.11b) printing for up to five users. In our tests, it also provided great performance and photo-quality, borderless prints.

Hardware	Cost (\$ 21)	Manufacturer	FeaturePC (\$ 3)
Intel P4 3.06 GHz	\$64.99/MP-3.06	Intel Pentium 4 3.06GHz (80158)	\$64.99/2.8GHz-760755.94/3.5V
MS-705 Neo P8294 Front/Backplane DSR	\$79.99/2.82GHz-4.4M	Axis PAR484 MCP w/SATA	\$82.99/MS-705999.94/2.8GHz
512MB PC2660 667MHz	\$29.99/512MB-667MHz	3204MB PC2660 800/ Dual-Channel	Regtron 512MB 400MHz PC-1280
Not listed		LS-600 2.8GHz	LS-600 2.8GHz
10/100 Ethernet Card	Not listed	Not listed	Not listed
MS-7588/87V7058	\$89.99/7588/87V7058	MS-7588 5-Port 10/100/1000 EX ADP	ASUS P5B-M 5-Port 10/100/1000
Not included	Samsung BD-5110-1.3	Samsung 7558P 12" Flat CRT	Samsung SyncMaster P200T 17" Monitor
Motorola 1200PMU 4.79/102.10	\$0.00/1200PMU 4.79/102.10	Sagitek 12008-SATA 6MB Cache	Logitech ZoneBlaster 1200PMU 4.79/102.10
10/100 DVD+/-RW 24XDR10X	\$0.00/52XDR10X	LG 4048P +/- RW 52X-RW	LG DVD+/-RW 24XDR10X
Creative SB-Live! 5.1 Sound Card	\$149.99/MS-705999.94	8-Channel Digital Audio	Logitech ZoneBlaster SB
Centon Inspire 51 5300 n/switcher	Custom Inspire 5100-1.0	Asus 816 Speaker System w/Guitar	Asus 816 Speaker System w/Guitar
N/A			
N/A			
16" 200W ATI P4 Case	Thermaltake Armor 8000	17" LCD Panel Case w/500W PS	Logitech Z-312 4.2/2.2/1.8/0.8W
144 MB floppy	3.5W 1.38 in. Drive	Panasonic 144MB Floppy	Logitech Z-312 4.2/2.2/1.8/0.8W
Logitech Optical Mouse OEM	MS-705999.94	Asus Wireless Wheel Mouse	Logitech Wireless Mouse
Logitech Infrared Webcam P577 0.3	MS-705999.94	Asus Wireless Webcam	Logitech Infrared ACS-IR013 Infrared
Not included	MS-705999.94	MS Windows XP Home	MS Windows XP Home
1 year w/3-3 yrs limited labor	MS-705999.94	Sysr Label 6 Type Bars	3 yrs w/2-3 yrs
\$1,989.30	\$1,989.30	\$1,984.00	\$1,989.30
Excl	Excl	Excl	Excl
\$1,931.43	\$1,931.43	\$1,929.90	\$1,931.43
\$1,918.03	\$1,918.03	\$1,918.28	\$1,918.03
www.logitec.com	www.logitec.com	www.logitec.com	www.logitec.com
604519-8779	604-673-8892	604-673-8892	604-673-8892

along with versatile paper-handling capabilities.

The highlights of using this printer were that we could quickly and easily connect it to an existing computer network, we were able to produce impressive photo-quality output with up to six-ink color printing, it offered an easy-to-use and economical with print-cancel button, media sensor and low-ink indicator (meaning that you know a lot more about what's going on

when there's a problem). And it offered print screen button that let us easily print the screen with the touch of a keyboard button.

Specifications for the printer were:

- Black resolution up to 1200-optimized dots-per-inch (dpi) black
- Photo-quality resolution up to 4800 x 1200-optimized dpi
- Prints up to 21 pages per minute (ppm) black text and up to 15 ppm color

• Supports the latest standards in wireless security, including Wi-Fi Protected Access (WPA) and Wired Equivalent Privacy (WEP)

- EasyPrint 2.2-capable for use with other EasyPrint devices
- Automatic paper sensor
- Fold-up, 150-sheet input paper tray, 50-sheet output tray
- Up to 400-sheet combined paper tray capacity with optional 250-sheet plain paper tray

Component	Address	PCI Computer	MicroConcept	Source (p.11)
CPU Motherboard Fan	Intel P4 3.2GHz C 900MHz FSB ASUS P4M890-E Deluxe FSB P4 1GB PC3200 DDR Memory Kit	Intel P4 3.2GHz C 900MHz FSB Intel 82552-PE/PL 2GB PC3200 400MHz DDR	Intel Pentium Xeon2 400MHz 533MHz FSB Intel 82552-PE/PL S390 ECC S128MB PC3200	http://www.intel.com http://www.asus.com http://www.s3.com
I/O Ports	Not listed	Not listed	Not listed	
LAN	Not listed	On board NIC 10/100BT	On board 10/100 PCI Network Card	On board 10/100/1000T/1000BT
Video Card	ATI Radeon 9500 Pro AGP 8X	ATI 9500 Pro AGP 8X/7X Sapphire RX 9500 Ultra	On board graphics accelerator	http://www.ati.com http://www.sapphire.com
Monitor	17" NEC Trinitron LCD	17" Acer Nitro AL1716 LCD	NBS 17" LCD	17" Sanyo 1811 LCD
Hard Drive Optical Device	200GB Seagate 7200RPM LS-24000 DVD+/-RW (universal DVD writer)	WD Caviar2 250GB MAX. 8MB 5200RPM LS dual (CD-RW/DVD+/-RW)	100GB Ultra 7200 RPM 62x DVD CD-Rew	Seagate 7200RPM LS-24000
Board Card Speakers	Creative SurroundNet East Aztec Z-10 Creative Inspire 17700	On board 8 channel surround sound Creative SB12133B	On board 8 channel sound ALi 805 Imaging 256 MB 64bit stereo	On board 8 channel Logitech 2402 60 speakers
Printer Scanner	N/A	N/A	HP LaserJet 1000 dpi 12IPM	N/A
Scanner	N/A	N/A	Not included	N/A
Case	Antec Micro Case w/ 9 front 5.25" bays	Not listed	Intel 500200-E Xeon case	http://www.intel.com
Keyboard	17400S keyboard	Not listed	Periphonic 144x3.5 floppy case	Side window 479W PS
Mouse	Logitech optical mouse	Logitech OptiMouse F52 1500	Apple Powerbook G4 1280P M170K Macbook 96 keyboard	Apple M170W Macbook Logitech Wavekey KB
Keyboard	Logitech cordless MX Dual sightline keyboard	Fujitsu keyboard		
Software	Microsoft XP Pro	Microsoft XP Pro	No software - N/A	Windows XP Pro
Warranty	Not listed	Limited warranty	Not listed	1 year limited warranty
Price	\$3,052.00	\$3,985.99	\$3,802.90	
Shipping	Not listed	\$73.00		
PST	\$721.48	\$723.25	\$722.20	\$722.50
DST	\$110.34	\$738.02	\$530.47	\$508.60
URL	www.hwsurvey.com	www.hwsurvey.com	www.hwsurvey.com	www.hwsurvey.com
Phone	604-534-8100	604-213-088	604-730-8180	604-777-9711

Calendar of Events

Want to have your announcement on the calendar? Events listed here!

JANUARY COMPUTER SHOW BEEF

Dear Miss/Mr. Admission: 12:00 - Saturday January 17 2004, 11:00 am - 4:00 pm, Copacabana
Commerce Centre, 350 South Aeolian, Suite 1000, Memphis, TN 38104 521-0304 or email: info@memphisbeef.com

VANTUS GENERAL MEETING

Robert Steele, director of computer finance
Vancouver, January 21 2004, 8:00 pm - 9:00 pm
Harley Conference Centre, 588 Hornby Street. For log
on info for all meetings required, visit www.vantus.com
For more details and registration:

PHP VANCOUVER CONFERENCE

Here come experts in the PHP development community
about PHP development and business applications
Thursday & Friday, January 22 & 23, 2004, 2:00 pm -
6:00 pm, Simon Fraser University Harbour Centre
Concourse, 105 West Hastings Street, Vancouver, BC
www.php.net for more information



Remember to join our Hardware Surveys Next Time

Email: customerservice@canada.com or fax to 905-688-0888

Calendar of Events

NETIA CEO ROUNDTABLE

LS MCs meeting in Dallas, Mothers 505+GST
Montreal 545+GST Tuesday January 29, 2004
Hyatt Regency Hotel 625 Renfrew Street, Vancouver
6:30pm breakfast 7:30 am Registration 8:00 am
Dinner 9:30 am Visit www.lscon.org or call 654-853-
8530

Technical Report Retention

Admission \$16.00 members, \$9.00 wif by pre-purchasing online. Tuesday January 29, 2004 6:00 pm - 9:30 pm SKY BAR, 1110 Steele Street, Denver, CO. Dress casual. Highlights include interactive displays, booths, special live/party performances, elevator pitch contests, dressed food, and amazing prizes. For tickets visit www.ticketweb.com

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Admission: \$3.00. Saturday February 1, 2004 11:00 am - 4:00 pm. Danvers Center 3326 Commercial Street. Call for info 804-521-8204.

Job Listings

TEKsystems 280-13700 International Place, Richmond, BC V6V 2X8

Mechanical / Electrical and Civil and Structural Drafters

TEKsystems 134801

We are currently seeking a Mechanical / Electrical and Civil and Structural Drafts with Document Control experience.

Description: Ideally you have 1-2 years experience with an Electro-mechanical Drafter / Document Control System or in Engineering environments. You are a drafting experienced with Auto CAD and other various electronic drafting file formats. Exposure to external documents as well as Microsoft Office products and Microsoft Communication skills must your skill set.

Contact Information

Ryan McQuade
Technical Recruiter – Design/Assemblage Controls
Engineering
Rmcquade@teksystems.com

Engineering Manager

TEKsystems 134802

Description: Austek is seeking the services of a Senior Engineering manager experienced working in the digital services technology industry. With 8-10 years of design and management experience supported by a university degree in Engineering the successful applicant will need one of the following criteria:

• A thorough understanding of digital signal processing and wireless communications, including digital radio architecture and modulation formats • Eight years of experience in hardware development, including layout, hardware design, FPGA and/or ASIC development, using VHDL or Verilog, embedded microprocessors and DSP processor development, high-speed computer buses and I/Os, and wireless hardware design • Working with other departments in the company to streamline, drive, manage, direct, and improve processes • Supporting and leading agile development processes including incremental, iterative, and iterative • Developing, initiating, Project and growing a team • Shift towards providing complete system solutions to our clients • Embedded software development

Contact Information

Ryan McQuade
Technical Recruiter – Design/Assemblage Controls
Engineering
Rmcquade@teksystems.com

Infrastructure Architect / Senior Server Support Specialist

TEKsystems 134804

Description: The successful candidate will be responsible for the administration and support of a large

distributed server environment. Other responsibilities will include designing, planning and overall management for our client's local IT network as well as improving their operating systems in Windows 2003. Candidates MUST have a strong background with Active Directory and RIS/OSD server migration and setup.

Successful candidates should have: Minimum of 6 years of cold IT experience • Current MCSE • Bachelor's degree in a related field

Contact Information

Raymond Sze
Technical Recruiter – TEKsystems
Rysze@teksystems.com

Senior Web Developer

TEKsystems 134806

Description: TEKsystems is currently seeking a senior web developer to join their North America development team. You will work as high profile/high traffic web sites that support large e-commerce environments. The candidate will be working in a fast paced rapid web development environment and will help enhance existing online offerings and be an integral part in developing new ventures. This is a high-risking environment with the latest .Net technology and high-volume visitors.

Technical Skills: Computer Science Degree or equivalent experience • 6+ Years of robust application development experience • Minimum 3 yrs project lead experience • Minimum Development experience with the following technologies: Video Stream, Visual Basic, Visual InterDev, Visual Source Safe, Visual Studio .Net - Windows NT/4.0/2000, IIS 4.0/5.0, ASP/Net • Strong SQL Server 7.0/2000 skills, database design, administration and programming

Contact Information

Marty Czajka
Technical Recruiter – TEKsystems
Marty.Czajka@teksystems.com

Business Analyst

TEKsystems 134807

Description: As the Business Analyst on the project you will be responsible for analyzing existing of the IT environment and specifying requirements for our project. You will also be responsible for preparing brief business documents on working with stakeholders. Help draft and assisting in the design of a customer plan for implementation. To qualify for this position you will need to have experience in the following:

• A strong grasp of corporate and interface issues • A strong understanding of user issues and presenting recommendations to user users through the interface including a communication plan • A strong

understanding of high functioning web services • Experience in preparing well thought through implementation documents (log, log, living, partial session, partial session etc.) • Familiarity with web security • Excellent writing skills, writing style. Basic UNIX skills • Knowledge of enterprise level web services • Good knowledge and understanding of Java based application technologies (JSP, HTML, RMI, Oracle, Java containers (Tomcat), web servers and frameworks)

Contact Information

Patrice Mirell
Technical Recruiter – TEKsystems
Patrice.Mirell@teksystems.com

SQL / Java developer

TEKsystems 134809

Description: We are looking for a break-out programmer to do the following tasks:

• Take the data model (already designed) and complete the implementation of the SQL2000 database. • Modify our VBI application to work with the new backend. • Modify and help rewrite core application developed in Visual C++ - non-development work will be done in Java. • Work with and help monitor the initial rollout, and assist with application support when required.

To qualify for this position you must possess the following skills:

• Minimum 3-5 years experience with SQL Server 2000 with replication and data management scripts • Minimum 3-5 years experience with Visual Basic able to modify programs for the new data model • Minimum 3-5 years experience with Visual C++ • Proven ability to read and follow applications that utilize a strict Class structure (C++) derived Java programming and UML primarily with server development, with some UI and XML experience

Contact Information

Patrice Mirell
Technical Recruiter – TEKsystems
Patrice.Mirell@teksystems.com

Functional and Technical PeopleSoft HRMS

TEKsystems 134810

To qualify for this position you must have experience working on PeopleSoft projects. Ideally you will have experience with a variety of the different HRMS modules (specifically Payroll, Time and Labor, HR and Data). Beneficial technical considerations will be expected to have knowledge of EBS, PeopleSoft, PeopleTools such as Application Objects and Oracle Reports.

Contact Information

Molly Molar
Technical Recruiter – TEKsystems
Molly.Molar@teksystems.com



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(604) 579-0768

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(604) 437-8919

Computer 2000
108-3888 Hastings St.
(604) 683-2333

Batch Computers
1000-4500 Kingsway
(604) 433-0210

MCIX.com (p. 2, 40)

5268 Kingsway
(604) 481-6862

www.mcix.com

info@mcix.com

AI Lab Computer

(604) 438-5338

Alpine Computer

(604) 455-8933

Big Power Computers
(604) 291-8863

Brain Computers

(604) 433-9868

Caliber Computers
(604) 529-1770

PERIPHERALS

Electro Computer
201-400 North Rd.
(604) 681-5890

Ever Tech Computer
(604) 681-4721

TX Computer
(604) 681-3719

Mythic Computer (p. 31)
(604) 845-7541

One Plus Computer Inc.
(604) 588-8101

Smartwest Computers
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Fastwest Computers
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(604) 514-0130

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Greg's Computer
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Wolfe's Computer
(604) 888-3813

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(604) 888-0035

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Print Lab Computer
(604) 482-8888

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(604) 543-6222

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(604) 521-3848

First-Alert Computer Services
(604) 521-6822

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Acu-Cam Computer
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Computer Depot
(604) 683-6100

IC3 Computers
(604) 684-7480

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(604) 586-0006

Crucy Computers
(604) 585-0118

POKE MECHANIC

Over Tech Computer
(604) 681-4720

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Adm Computer
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PCPower Computer (p. 32)
#101-11211 Bridgeport Rd.

(604) 213-5888

AI Lab Computer System
100-11211 Bridgeport Rd

(604) 214-6670

Intense Technology Inc.
100-11400 Bridgeport Rd

(604) 214-7702

Canadian Computer Store
(604) 263-2488

CF Computer Outlet
(604) 276-2630

City Computer Systems
(p.81)

#150 - 10800 Carls Plaza

(604) 273-3137

www.citycomputers.com

[citycomputers.ca](http://www.citycomputers.ca)

3DC Technologies (p.17)

145-4471 8th Ave

(604) 681-1100

www.3dc.com

[3dc.ca](http://www.3dc.ca)

Discover Computers

(604) 241-4472

IC Computer

178-4311 Lougheed Hwy

(604) 213-1318

Janus Computer Inc.

(604) 215-6892

Jetwave Electronics (p.4)

288-13066 Canoe Rd.

(604) 276-4366

www.jetwave.com

jwave@telus.net

JBS Computers Inc.

(604) 273-3786

LEF Advanced Technology Inc.

(604) 369-9228

Main Computer Inc.

(604) 273-2611

MCI Internet Inc.

(604) 281-2800

(800) 289-1880

Monitor King (p.10)

#10-11800 Bridgeport Rd.

(604) 276-2677

www.monitorking.bc.ca

monit@monitking.bc.ca

Netgear Computer

5-110 W Broadway

(604) 733-6538

PC Computer

(604) 273-0802

www.pccomputer.ca

info@pccomputer.ca

Server Computer (p.11)

Unit 140, 4800 No 3 Rd

(604) 717-6111

www.serverpc.com

info@serverpc.com

T.L.O. Computers Inc.

(604) 271-8000

Ter-Tek Computer Systems

(604) 281-0296

Trina-Byrn Computer

(604) 271-2222

Upper Priest Computer

(604) 446-3367

PERIPHERALS

Golden Egg Computer

102-103 10th St.

(604) 512-7331

Terabyte Recovery

240-1020 8th Floor, P.O.

(604) 681-0776

Premier Console (p.34)

8275 Shadforth Street

(604) 393-1399

www.premierconsole.com

Macsoft Software (p.31)

288-426 Carmel St.

(604) 638-0889

www.macsoftsw.com

info@macsoftsw.com

Desktop Computer

(604) 670-4680

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(604) 573-0808

Code II Computer Inc.

(604) 676-2880

Computer Concepts Inc.

(604) 323-0222

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(604) 672-6206

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Liquid Computer

(604) 279-6890

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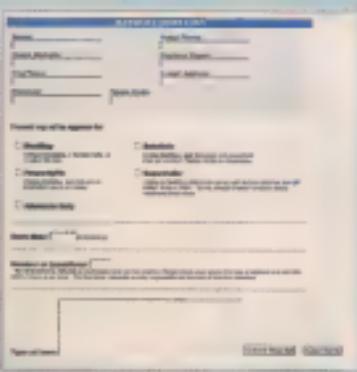
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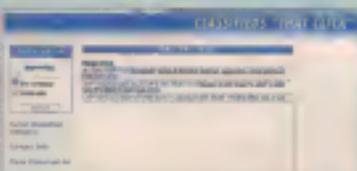
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— Greg Johnson, PC Master, December 2002



PROMEDIA™ 2.1 Speakers

The ProMedia 12.10" speakers have been redesigned to offer more drivers and a high performance midrange driver and a tweeter driver for accuracy and better midrange.



PROMEDIA™ 5.1 Speakers

The ProMedia 5.1.10" speakers have been redesigned to offer a larger 12.10" woofer and a 10.25" tweeter. The new drivers and a more powerful amp offer greater speaker output in the midrange, providing the most accurate and dynamic soundstage in multi-channel applications.

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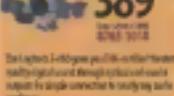
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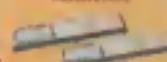
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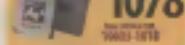
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